

AMENDMENTS TO THE SPECIFICATION:

Please replace the last full paragraph starting on page 1 and continuing on page 2 including the Graph immediately following said paragraph with the following replacement paragraph:

--In contrast, U.S. Patent No. 4,628,136 teaches a method of recovering the heat contained in the overhead of the EB/SM splitter by using this stream to boil an azeotropic mixture of ethylbenzene and water, which, once vaporized, is subsequently transferred to the reaction system where dehydrogenation of ethylbenzene to styrene takes place. The method described in the 4,628,136 patent, however, requires that the EB/SM splitter operate at a pressure that is sufficiently high as to enable the transfer of the azeotropic mixture of ethylbenzene and water vapor into the reactor system without the use of a compressor. This patent also specifies that the temperature difference between the condensing EB/SM splitter overhead and the boiling azeotropic mixture of ethylbenzene and water should be in the range of between and 2 and 10° C. Given this temperature constraint, one can derive a relationship between the pressure at which the azeotropic vaporization is taking place and the required overhead pressure of the EB/SM splitter. This relationship is presented graphically ~~below~~ in Fig. 4. --

Please replace the first full paragraph starting on page 2 and continuing on page 3 of the Specification with the following replacement paragraph:

--As can be seen in the ~~above~~ graph presented in Fig. 4, the method taught by U.S. Patent No. 4,628,136 requires that the EB/SM splitter operate at an overhead pressure of at least 200 mmHg in order for the azeotropic mixture to be transferred into the reactor system without the use of the compressor. This is because the practical lower limit for the pressure at the inlet of the reactor system is of the order of 400 mmHg, and may range up to about 1100 mmHg, which must be increased by another 100 to 200 mmHg in order to pass the azeotropic mixture of ethylbenzene and water vapor through the heat exchange system (e.g., reactor feed-effluent exchanger or a fired heater) which is needed to bring it to the required reaction temperature and to pass this stream into and through the reactor system. As a consequence of this limitation, the method taught by U.S.

Patent No. 4,628,136 results in required operating temperatures for the EB/SM splitter which are significantly higher than in a conventional process where no effort is made to recover heat from the overhead. Operation at such higher temperature and pressure, however, is more costly both in operational and capital costs.--.

On page 5 of the Specification immediately following the paragraph "Fig. 3 is a process flow diagram of a third embodiment of the present invention which utilizes two compressor units downstream of the fractionator," please insert the following new paragraph:

-- Fig. 4 is a graphical representation of a relationship between the pressure at which the azeotropic vaporization takes place and the required overhead pressure of the EB/SM splitter.--